

**IN THE CLAIMS**

For the convenience of the Examiner, all pending claims are set forth below, whether or not an amendment is made. Please amend the claims as follows.

1. (Currently Amended) A method for modeling behavior of elements in a telecommunications network, comprising:

providing a node representing a network element, the network element comprising a first physical element of a telecommunications network;

storing in the node a first service state for the node;

storing in the node a second service state for a first parent node upon which the node is operationally dependent, the first parent node representing a second physical element of the network on which the first physical element is physically dependent;

generating a second parent node in response to a triggering occurrence, the second parent node representing a logical element on which the first physical element is logically dependent;

~~in response to detecting a triggering occurrence, dynamically associating a second the~~  
second parent node with the node;

storing in the node a third service state for the second parent node; and

in response to receiving at least one of a new second service state and a new third service state, redetermining at the node the first service state for the node using a state determiner and at least one of the new second service state and the new third service state.

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Original) The method of Claim 1, further comprising, in response to the redetermined service state for the node being a new service state for the node:

determining any child nodes for the node, the child nodes operationally dependent upon the node; and

inserting the new service state for the node in each child node.

6. (Original) The method of Claim 5, further comprising redetermining a service state for each child node in response to the new service state for the node being inserted in the child node.

7. (Original) The method of Claim 1, further comprising:  
storing in the node an operation state for the node; and  
in response to receiving a new operation state, redetermining the service state for the node based on the operation state and the parent service states.

8. (Original) The method of Claim 7, wherein the operation state is a composite state including at least one of a broken state, an in-service state, and a maintenance state for the node.

9. (Currently Amended) A method for modeling behavior of elements in a telecommunications network, comprising:

providing a node representing a network element, the network element comprising a first physical element of a telecommunications network, the node operationally dependent on a plurality of parent nodes, a first parent node of the plurality of parent nodes representing a second physical element of the network on which the first physical element is physically dependent;

storing in the node a first service state for the node;

generating a second parent node in response to a triggering occurrence, the second parent node representing a logical element on which the first physical element is logically dependent, the second parent node included in the plurality of parent nodes;

dynamically associating the second parent node with the node;

storing in the node a second service state for each of ~~a plurality~~ the plurality of parent nodes upon which the node is operationally dependent; and

in response to receiving at least one new second service state for at least one of the plurality of parent nodes, dynamically redetermining at the node the first service state for the node using a state determiner and the at least one new second service state for the at least one of the plurality of parent nodes.

10. (Canceled)

11. (Canceled)

12. (Original) The method of Claim 9, further comprising, in response to the redetermined service state for the node being a new service state for the node:

determining any child nodes for the node, the child nodes operationally dependent upon the node; and

inserting the new service state for the node in each child node.

13. (Original) The method of Claim 12, further comprising redetermining a service state for each child node in response to the new service state for the node being inserted in each child node.

14. (Original) The method of Claim 9, further comprising:  
storing in the node an operation state for the node; and  
in response to receiving a new operation state, redetermining the service state for the node based on the operation state and the parent service states.

15. (Original) The method of Claim 14, wherein the operation state is a composite state including at least one of a broken state, an in-service state, and a maintenance state for the node.

16. (Currently Amended) A network control system for modeling behavior of elements in a network, comprising:

a node representing a network element, the network element comprising a first physical element of a telecommunications network, the node operationally dependent on a plurality of parent nodes, a first parent node of the plurality of parent nodes representing a second physical element of the network on which the first physical element is physically dependent;

a second parent node generated in response to a triggering occurrence, the second parent node representing a logical element on which the first physical element is logically dependent, the second parent node included in the plurality of parent nodes, the second parent node dynamically associated with the node;

a state store in the node for storing a first service state for the node;

a parent state store in the node for storing second service states for ~~a plurality~~ the plurality of parent nodes upon which the node is operationally dependent; and

wherein the first service state for the node is dependent upon the second service states of the plurality of parent nodes, the node operable to dynamically redetermine the first service state for the node using a state determiner and at least one new second service state of at least one of the plurality of parent nodes.

17. (Canceled)

18. (Canceled)

19. (Original) The system of Claim 16, the node further comprising:

a child list including a list of child nodes operationally dependent upon the node; and

wherein the node is operable to insert the service state for the node into each of the child nodes in the child list upon a change in the service state for the node.

20. (Original) The system of Claim 16, further comprising a state determiner operable to redetermine the service state for the node based on the service states for the parent nodes.

21. (Original) The system of Claim 16, the node further comprising:  
an event list including a list of specified events; and  
an action list including an action to take in response to each event in the event list.

22. (Original) The system of Claim 21, further comprising:  
the event list including a parent state event for a change in the service state for each  
of the parent nodes;  
the action list including a corresponding action of calling a state determiner in  
response to each parent state event; and  
the state determiner operable to redetermine the service state for the node based on  
the service states for the parent nodes.

23. (Previously Presented) The method of Claim 1, wherein the state determiner  
comprises a service state equation comprising a variable selected from a group consisting of  
a service state, a broken state, an in-service state, a maintenance state, and a parent state.

24. (Previously Presented) The method of Claim 9, wherein the state determiner  
comprises a service state equation comprising a variable selected from a group consisting of  
a service state, a broken state, an in-service state, a maintenance state, and a parent state.

25. (Previously Presented) The system of Claim 16, wherein the state determiner  
comprises a service state equation comprising a variable selected from a group consisting of  
a service state, a broken state, an in-service state, a maintenance state, and a parent state.